

THE FY06 IMPLEMENTATION PLAN FOR NWS TRAINING AND EDUCATION

**In Support of the
NWS Human Capital Strategic Plan**

September, 2005

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I. Executive Summary

“Employee Development: Maintain a world-class workforce in a changing world by aligning the competencies of our workforce with changing mission needs, technology, and science, and instilling our core values in our employees.”

Human Capital Strategic Plan 2006-2010
for NOAA’s National Weather Service

This Implementation Plan is the guiding document for the national training and education activities within the National Oceanic and Atmospheric Administration’s (NOAA’s) National Weather Service (NWS) for Fiscal Year 2006 (FY06). Its purpose is to specify the recommended training to be executed for the upcoming fiscal year with detailed costs. Its operational mission importance resides in the fact that it captures, more comprehensively than ever before, the competency-based and job-critical training requirements for the NWS. It also identifies the training gap of unfunded needs created by the erosion of training dollars in a constrained budget environment. This gap is critical information needed for the NWS to analyze and plan how to fund and provide the workforce the skills they need to perform the mission.

The Office of Climate, Water, and Weather Services (OCWWS) Training Division supports the increased use of distance and blended learning techniques. The expanded opportunities these techniques offer will help ensure training is developed in the most economical manner relative to the training objectives. However, they do not eliminate the need for residence training. With the increased use of distance learning technologies there are two significant and corresponding impacts. First, while the net cost per student decreases, there are substantial increases in the dollar and manpower costs to develop and maintain distance courses. Second, while there is flexibility and convenience with distance learning approaches, the Training Division also recognizes an impact to the workload at local offices. Acknowledging these impacts, the Training Division is committed to delivering effective training directly to operational decision makers with the goal of improving service performance.

Of 130 requirements submitted, 67 were recommended to be funded. There will be 32 residence courses with 106 classes taught in FY06. In addition, numerous distance learning (DL) modules will be developed and delivered over the web and by teletraining. Level funding from FY05 to FY06 was assumed, allowing only the highest priority operational training to be delivered. Other important operational, leadership, and scientific training remains unfunded.

For FY06, the total cost of the highest priority training requirements approaches \$10.7 million, with available funding near \$6.1 million. As a result, most of the FY06 new initiatives and existing training were either funded at significantly reduced levels or not funded at all. As the pace and magnitude of change in science and technology increase, our ability to maintain a highly trained workforce within constrained budget levels will continue to be compromised.

Training requirements were submitted from 25 program area teams containing representatives from the NWS field, NWS headquarters including the OCWWS Training Division, and other organizations. Each submission identified the NOAA strategic goals and/or the NWS Government Performance and Results Act (GPRA) goals the training supports. Linkage to NOAA and GPRA goals was one of the prioritization criteria used to make the recommendations for the training contained in this plan.

II. Challenges

NOAA's NWS' ability to maintain the workforce knowledge and skills necessary to execute the agency's mission faces major challenges. These include rapidly changing advances in science and technology and a significant decrease in resources available for training. The pace of change is significant because it both generates new training requirements and shortens the lifespan of all training material. This requires the continuous revision of current training materials and the development of new training courses.

The training the NOAA's NWS provides to its staff enhances the knowledge, skills, and abilities needed to support the NWS operational mission, and to meet NOAA's Strategic Goals and the NWS' GPRA Goals. NOAA's NWS training activities support these important goals and are directly related to improving warning and forecast programs.

In FY05, NOAA's NWS suffered major budget reduction, and training funds were decreased by an unprecedented 27%. Many courses and other training activities scheduled to occur in the Implementation Plan for FY05 (IP05) had to be cancelled or curtailed. Budget constraints will continue in FY06, and additional cuts to training funds are possible. As a result, most of the FY06 new initiatives and existing training were either funded at significantly reduced levels or not funded at all.

NOAA's NWS training is delivered by a variety of methods: residence, online, computer-based, teletraining, local training and blended variations of the above. Although not all training needs can be met through distance learning methodologies, the Training Division supports the national strategy to increase the use of distance and blended learning techniques, where appropriate. This support includes matching training needs to curriculum delivery methodology and matrixing Training Division resources from the three training centers. The Training Division will continue to assess current and new training requirements to ensure that training is developed in the most economical manner relative to the objectives of the training. While the net cost per student trained decreases by using distance and blended learning, there are significant increases in the cost to develop and maintain courses. The Training Division faces serious challenges absorbing the increased labor costs in a shrinking budgetary environment.

III. NSTEP Process

Recommended training and education activities for NOAA's NWS staff in FY06 are specified by this document. The FY06 Implementation Plan for NWS Training and Education (IP06) is the end result of the National Strategic Training and Education Plan (NSTEP) process.

The NSTEP process prioritizes and recommends training requirements within available discretionary budgets and is coordinated by the Field Requirements Group (FRG). For the IP06 process, the FRG representatives included Regional Scientific Services Division Chiefs or Regional Scientists, and the Operations Officer for the National Centers for Environmental Prediction (NCEP). Members of the FRG and other experts participated in conference calls during the spring and summer of 2005 to recommend the highest priority NWS training to be accomplished in FY06.

This document provides the Heads of Training Group (HOTG) the requirements for the training to be offered and the instructional modules to be developed for FY06. Coordination of the entire NSTEP process, including development of this plan, was facilitated by the OCWWS Training Division. Additional information on NSTEP may be accessed at:

A significant process change occurred this year in the determination of training needs. In addition to the traditional NSTEP Team, 25 Program Area Teams, with members coming from the NWS field, Headquarters, Training Division, and other NOAA offices and agencies, were established. Program Area Teams assessed and prioritized the training needs, including the viability of current training activities, in their particular area. These prioritized training needs were submitted in the form of initiatives (1-pagers) to the NSTEP Team, who worked collaboratively to develop a recommendation for the allocation of training resources. Thanks to the extraordinary effort of the teams, a more complete set of training requirements now exists for FY06 than was available in recent years. This process helped define the gap between requirements and funded training activities in FY06. The identification of training gaps will be very useful as the NSTEP process aligns with NOAA's Planning, Programming, Budgeting, and Execution System (PPBES) and the Human Capital Strategic Plan for NOAA's NWS.

IV. Recommended Training for FY06

Recommended training activities for FY06 are given below for the program areas defined in the NSTEP process. Regional Training Funds, which are associated with many program areas, are described at the end of this section. Refer to Tables 1 and 2 for training activities associated with discretionary funds and prioritized by the FRG. Refer to Table 3 for training activities associated with non-discretionary funds as noted. A complete list of training activities for each of the 25 Program Area Teams, along with website references and more thorough descriptions, is contained in Appendix 2.

Note: The recommended training for FY06 is outlined in the bulleted lists below. Existing training is identified by a • symbol, and new training initiatives are displayed with a ➤ symbol.

Advanced Weather Interactive Processing System (AWIPS)

- AWIPS Applications Development
- AWIPS Operations Support
- AWIPS System Manager
- LINUX for Weather Forecast Offices/River Forecast Centers (WFOs/RFCs).
- AWIPS Build (Delta) Training
- AWIPS Enhancements for the Weather Event Simulator (WES) to Improve Build Delta Training
- Introduction to Postgres

Engineering/Electronics

- Automated Surface Observing System (ASOS) Maintenance
- Automated Radio Theodolite (ART) Rawinsonde System Maintenance
- Console Replacement System (CRS) Maintenance
- NOAA Weather Radio (NWR) Armstrong Transmitter Maintenance
- NWR Crown Transmitter Maintenance
- NWR Scientific Radio Services (SRS) Transmitter Maintenance
- WSR-88D Maintenance
- WSR-88D Microwave Line of Site (MLOS) Maintenance
- Introduction to NWS Systems
- WSR-88D Open Systems Radar Data Acquisition (ORDA) Maintenance
- Radiosonde Replacement System (RRS) Maintenance

Digital Services

- The Interactive Forecast Preparation System (IFPS) Focal Point Course
- IFPS New Build Training
- Emerging Topics in Digital Services Software, Techniques, and Datasets
- Applied IFPS Science Techniques
- NWS Digital Services Forecast Process

Fire Weather

- NOAA's Incident Meteorologist (IMET) Workshop
- Advanced Fire Weather Forecasters Course (S-591)

Forecaster Development Program

In the NSTEP process, the Forecaster Development Program (FDP) also includes training for meteorologists at all levels, as opposed to just interns.

- CRS Network Operations
- COMET Mesoscale Analysis and Prediction (COMAP) – Update current COMAP to a 3-week course for offering in FY07.
- Update DL modules for newly hired interns and forecasters
- Develop a baseline learning path for newly hired interns and forecasters

Integrated Warning Process

- Advanced Warning Operations Course (AWOC) – Core and Severe Tracks
- WES Development and Support

Winter Weather

- Canada Winter Weather Workshop (outside funding)
- AWOC – Winter Track

Tropical

- Begin development on a Tropical Cyclone Operations Course for delivery in FY07

Information Technology

- Information Technology (IT) System Administration Networking and Security (SANS) course or equivalent training

Safety/Environment

- Safety
- Environmental Compliance
- Fall Protection and Rescue (attrition)
- Fall Protection and Rescue (re-certification)
- Safety Refresher
- Environmental Compliance Refresher

Hydrology

- Advanced Hydrologic Applications
- Flash Flood Hydrology and Quantitative Precipitation Estimation (QPE) Workshop
- Advanced Hydrologic Science
- River Forecast Center (RFC) Workshops
- Enhancements to AWIPS Hydrologic Applications

It is recommended to continue to fund the dedicated hydrology development DL team at the Cooperative Program for Operational Meteorology, Education, and Training (COMET®) jointly by the Training Division and the NWS Office of Hydrologic Development in FY06. This item falls under the non-discretionary funding in Table 3. The hydrology team will focus on the development of training in the following areas:

- Flash Flood/Intense Precipitation
- Basic Hydrologic Science
- Advanced Hydrologic Science
- Hydrologic Ensemble Forecasts

Numerical Weather Prediction

Two project scientists, dedicated to numerical weather prediction (NWP) training development, are part of the COMET non-discretionary funding outlined in Table 3.

- Use of the NCEP North American Mesoscale Weather Research Forecasting (NAM WRF) model
- Model Output Statistics (MOS) Guidance Training
- Application of Ensemble Prediction Systems in the Forecast Process
- Updating the “Characteristics of Operational NWP Models” Matrix
- Appropriate Use of High Resolution Model Guidance in the Forecast Process
- Use of Marine Wave Models in the Forecast Process

Climate

- Climate Services Operations
- Pacific Region (PR) Climate Services Operations
- Alaska Region (AR) Climate Observations and Local Climate Products

Observing and Data Acquisition

- Data Acquisition and Operations (DATAC)
- Cooperative Network Operations

Marine/Tsunami

- Regional Marine/Tsunami Workshops (possible outside funding)
- Advanced Tsunami Training (possible outside funding)

Aviation

In FY06, funds from OCWWS' Aviation Services Branch will again partially support a DL team at COMET in the development of aviation training, and continue expanding on the completed baseline course called Distance Learning Aviation Course-1 (DLAC-1).

- DLAC-2: Building an Effective Terminal Aerodrome Forecast (TAF)
- Development of a WES case on ceiling and visibility

Integrated Sensor Training

Funding is recommended to support NOAA's Virtual Institute for Satellite Integration Training (VISIT), and the VISIT team includes staff from NWS, NESDIS, and other Cooperative Institutes. The VISIT team supports satellite and related remote sensing training. The Warning Development Training Branch supports radar training.

- VISIT teletraining and software
- Satellite Hydrometeorology (SHyMet) course (NESDIS funding)
- WSR-88D Distance Learning Operations Course (DLOC)
- WSR-88D Build Training
- National Polar-Orbiting Operational Environmental Satellite System (NPOESS)/Userport Training (NESDIS funding)
- Geostationary Operational Environmental Satellite (GOES) online updates (NESDIS funding)

Homeland Security/Emergency Response

- Development of a DL course on emergency response

NOAA Service Outlets

- Development of a DL course on NOAA services (outside funding)

Administration

- Travel support to attend administrative training

Management/Leadership

- Executive Leadership Seminar
- Field Operations Management
- Management and Supervision
- Labor/Management Relations CD

Diversity/EEO

- A webcast entitled "The Potential is Yours"

Regional Training Funds

The Regional Training Funds are often the only available resource in a constrained budget environment to meet unique training requirements in mission-critical areas. The Regional Training Funds are typically used for the following areas of training, which received insufficient funding or no funding in the FY06 NSTEP process:

- Local facilities training
- Local IT training such as system administration, networking, security, etc.
- Specialized safety training
- Replacement of WES hardware
- Additional hydrology training from local universities
- Training for administrative personnel
- Travel for NWS/university projects and workshops supporting collaborative research

V. Mission Impact

In FY05, training funds were reduced by an unprecedented 27%, and many courses and other training activities scheduled to occur in the IP05 were cancelled or reduced. This constrained budget environment is expected to continue in FY06. Refer to Table 3 for a history of the training funding levels since the original budget allocation in FY05.

Total unfunded training activities exceeded \$3.8 million in FY06, and a funding summary is provided in Table 4. This training gap of unfunded needs will continue to compromise efforts to maintain a highly trained workforce and could also impact the ability to meet NWS GPRA goals. Due to the proposed reduced budget, only the highest priority and mandated training activities are recommended for funding in FY06. This means many other high training priorities remain unfunded. Most of the new initiatives and existing training were either funded at significantly reduced levels or not funded at all. Unfunded training amounts are given in Tables 1 and 2, and Table 2a contains a list of all unfunded training activities associated with discretionary funds for FY06. Funding for non-discretionary items such as the COMET cooperative agreement and Training Division operating costs are also reduced. Refer to Table 3 for non-discretionary costs.

VI. Summary

Training remains the lifeblood of a highly trained NWS workforce. The budget environment, combined with the pace and magnitude of change, continue to challenge our ability and our commitment to provide our employees with the knowledge, skills, and abilities they need to execute the mission of NOAA and NWS.

The Training Division has pledged to leverage technology in the use of innovative distance learning and blended learning techniques. However, while these methodologies offer dramatic cost reduction per student, it is important for system deployment planning and manpower purposes to recognize they carry a significant increase in development and maintenance time and do not eliminate the need for residence training.

The 2006-2010 Human Capital Strategic Plan, recently approved by the NWS Corporate Board, is a guiding document as we go forward. It lays out specific training strategies, outcomes, and objectives for establishing a world-class workforce. These are deliberately ambitious goals and must be incorporated into the NSTEP and PPBES processes to ensure we retain our focus on training as a priority, as stated in the Plan, to “maintain excellence in the face of change by safeguarding the most valuable asset of NOAA’s National Weather Service – the NWS workforce.”

Acknowledgments

The OCWWS Training Division would like to acknowledge the efforts of those who significantly contributed to the FY06 NSTEP process. The Program Area Teams were new to the NSTEP process and under severe time constraints to produce NWS training requirements for FY06. Their technical expertise and the results of their efforts were important contributions to the process. The efforts of the HOTG and their staffs of trainers are also greatly appreciated. They performed the difficult task of evaluating all of the training initiatives in terms of appropriate methodologies and required resources. The FRG is gratefully acknowledged for their ongoing efforts and dedication throughout the NSTEP process. The FRG reviewed all the training initiatives with the individual teams, and then prioritized and recommended the training to be offered to NWS employees in FY06. Finally, the NSTEP Program Manager is acknowledged for coordination and facilitation of the NSTEP process. This year’s process has resulted in more comprehensive training requirements and accurate costs than ever before.

Appendix 1 NOAA Strategic Goals and NWS GPRA Categories

Note: These numbers are used in Tables 1, 2, and 2a.

NOAA Strategic Goals:

NOAA Goal 1: Protect, Restore, and Manage the Use of Coastal and Ocean Resources through an Ecosystem Approach to Management

NOAA Goal 2: Understand Climate Variability and Change to Enhance Society's Ability to Plan and Respond

NOAA Goal 3: Serve Society's Needs for Weather and Water Information

NOAA Goal 4: Support the Nation's Commerce with Information for Safe, Efficient, and Environmentally Sound Transportation

NOAA Goal 5: Provide Critical Support for NOAA's Mission

NOAA Cross-Cutting Priorities:

CP1: Developing, Valuing, and Sustaining a World-Class Workforce

CP2: Integrating Global Environmental Observations and Data Management

CP3: Ensuring Sound, State-of-the-Art Research

CP4: Promoting Environmental Literacy

CP5: Leading International Activities

NWS GPRA Categories:

GPRA Category 1: Tornado

GPRA Category 2: Flash Flood

GPRA Category 3: Marine

GPRA Category 4: Aviation

GPRA Category 5: Winter Storm

GPRA Category 6: Precipitation

GPRA Category 7: Seasonal Temperature

GPRA Category 8: Hurricane

Appendix 2 Description of Recommended Training and Other Expenditures

A detailed description of NWS training activities recommended for FY06 follows for both discretionary and non-discretionary funds. A description of training activities sponsored and funded by the NWS International Activities Office is also given.

Section A. Recommended Training by Program Areas

Some background about the recommended training activities, along with website references and descriptions of new training initiatives within the 25 program areas, is given. Refer to Tables 1 and 2 for training activities associated with discretionary funds and to Table 3 for training activities associated with non-discretionary funds. Additional information on existing courses and training modules can also be found at the following websites:

<http://www.nwstc.noaa.gov/nwstrn/classes.html>

http://www.comet.ucar.edu/class/common/html/course_descrip.html

<http://www.wdtb.noaa.gov/courses>

<http://www.meted.ucar.edu>

<http://www.nwstc.noaa.gov/nwstrn/d.ntp/pds.html>

Note: The recommended training for FY06 is outlined in the bulleted lists below. Existing training is identified by a • symbol, and new training initiatives are displayed with a ➤ symbol.

AWIPS

The following training courses and new initiatives will be offered in FY06 to support the operation, system administration, and maintenance of AWIPS:

- AWIPS Applications Development
- AWIPS Operations Support
- AWIPS System Manager
- LINUX for WFOs/RFCs
- AWIPS Build (Delta) Training
- AWIPS Enhancements for the WES to Improve Build Delta Training
- Introduction to Postgres

The AWIPS Build (Delta) Training initiative represents multiple and widely differing training requirements, applying to both meteorology and systems administration, combined into one broad initiative. Balancing the manpower needs for residence and delta training is a remaining challenge. AWIPS systems administration and operations support residence courses were reduced to help address the manpower resources needed for the development of delta training. Funding includes the use of a Field Requirements Team (FRT) to support this training initiative.

The development of AWIPS delta training has significant unresolved issues, some of them involving national policy. The primary considerations are:

- The need for change in national policy to allow Training Division adequate time to develop and deliver the training on new releases *prior* to release of the software to the field. (Supported by Human Capital Strategic Plan, ED3)
- The need for increased quality control of the AWIPS builds
- The need for improved documentation with the AWIPS builds

Another AWIPS training requirement funded in FY06 is called AWIPS Enhancements for the WES to Improve Build Delta Training. This training allows updated WES releases to coincide with the new AWIPS build releases. This training supports field operations as forecasters are required to run two WES simulations prior to each significant weather season.

While not a part of IP05 or included in the FY06 submissions, the national deployment of Postgres databases in AWIPS, which will replace the Informix database, will have extensive training implications. The Training Division, drawing from open source materials, has developed a Postgres Reference Manual and will also deliver an Introduction to Postgres DL course in FY06.

Engineering/Electronics

Engineering and electronics training ensures NWS personnel are able to install, operate, and repair the systems integral to our ability to issue daily forecasts and warnings.

- ASOS Maintenance
- ART Rawinsonde System Maintenance
- CRS Maintenance
- NWR Armstrong Transmitter Maintenance
- NWR Crown Transmitter Maintenance
- NWR SRS Transmitter Maintenance
- WSR-88D Maintenance
- WSR-88D MLOS Maintenance
- Introduction to NWS Systems
- WSR-88D ORDA Maintenance
- RRS Maintenance

A course called Introduction to NWS Systems, previously been offered as residence training, will be converted to a DL format for delivery late in FY06. A new WSR-88D ORDA Maintenance course will be offered in FY06. This course supports the national deployment and will provide the skills and knowledge required to perform operation and maintenance of the new ORDA System. The RRS Maintenance course is another new offering scheduled to occur in FY06. The course supports the national deployment and will provide the skills and knowledge required to perform operation and maintenance of the new RRS system.

Additional training is needed for local facilities to ensure field staff know how to repair vital mechanical and electrical systems; are aware of good maintenance practices; and possess a clear knowledge of how to comply with building and safety codes and regulations. Specific funds were not available for these training requirements in FY06; however, portions of this training may be funded from the Regional Training Funds described at the end of this section.

Digital Services

Due to a major change in NWS operations in the digital era, training requirements associated with IFPS are increasing rapidly.

- The IFPS Focal Point Course
- IFPS New Build Training
- Emerging Topics in Digital Services Software, Techniques, and Datasets
- Applied IFPS Science Techniques
- NWS Digital Services Forecast Process

The IFPS Focal Point Course and the IFPS New Build Training are both blended DL/teletraining courses and will continue to be offered in FY06. The IFPS Focal Point Course provides the knowledge and skills needed to become an IFPS site expert and system administrator, while IFPS New Build Training provides updates on new functionality for operational staff at NWS field offices.

Other digital services training initiatives are funded for development in FY06, and all will be in the form of DL modules. One initiative is entitled Emerging Topics in Digital Services Software, Techniques, and Datasets. Short DL training modules will be developed on topics such as Graphical Hazards Generator (GHG), Hydrometeorological Prediction Center (HPC) Grids for Days 4-7, Gridded Model Output Statistics (MOS), etc. General development guidelines for these modules include the increased knowledge and understanding of the topic, operational applications, best practices/methodologies, and practical exercises. Another digital services initiative funded in FY06 is entitled Applied IFPS Science Techniques. Training will be developed on IFPS Smart Tools in coordination with the Smart Tool/Smart Initialization Team (ST/SIT). Smart Tool training will support operational forecasters with the issuance of grids and other NWS products. The final initiative funded is the NWS Digital Services Forecast Process. This is a broad area of training, and the IFPS training team will coordinate with Regional focal points and the ST/SIT with regards to training content.

Fire Weather

NOAA's Incident Meteorologist (IMET) program now includes weather support for all-hazards incidents such as hazardous material spills and support for major security events (e.g., national political conventions). This is a significant expansion beyond the traditional fire weather support provided in the past.

- NOAA's IMET Workshop
- Advanced Fire Weather Forecasters Course (S-591)

NOAA's IMET Workshop provides training to IMETs on new technology advances and techniques. The existing Advanced Fire Weather Forecasters Course (S-591) has previously been offered every other year at the National Interagency Fire Center (NIFC) in Boise, ID. Funding has been approved to offer this residence course one more time in FY06, with training personnel also scheduled to attend. The plan is for the S-591 course material to be updated and converted to a DL format. This work is expected to begin sometime in FY06, with plans for the existing COMET core team to transition to fire weather development, with oversight provided by the Training Division.

Forecaster Development Program

The Forecaster Development Program (FDP) provides a training plan for new meteorologist interns and for newly hired forecasters who lack NWS experience. The training plan prepares the new forecaster for a career as a journeyman meteorologist. The FDP team proposed a residence course for new forecasters to be offered in FY06; however, funding was not available. In FY06, training modules will be updated and a baseline learning path will be developed. In the NSTEP process, the FDP also includes training for meteorologists at all levels, as opposed to just interns. The following training activities are associated with the FDP:

- CRS Network Operations
- COMAP – Update current COMAP to a 3-week course offering in FY07
- Update DL modules for newly hired interns and forecasters
- Develop a baseline learning path for newly hired interns and forecasters

The COMAP Boundary Layer Symposium will not be offered in FY06. The COMAP course has been postponed and is expected to be offered in FY07. Starting in early FY06, the existing 6-week COMAP course will be converted to a 3-week residence course based on the recommendations from the Science and Operations Officer/Training Advisory Panel (SOO/TAP), which can be found at the following website:

http://strc.comet.ucar.edu/advisorypanel/documents/TAP_COMAP_final.pdf

Integrated Warning Process

Training addressed by the Integrated Warning Process team is directed at NWS field forecasters with the goal of increasing scientific understanding of the elements involved in the warning process. Expected results from this training include improved skills in decision making and ultimately better service in the issuance of mission-critical warnings.

- AWOC – Core and Severe Tracks
- WES Development and Support

AWOC – Core and Severe Tracks will again be offered and updated in FY06. Development and support will also continue on the WES, with additional simulations developed to support NWS forecast and warning operations.

Winter Weather

Winter weather training requirements will be more fully addressed for the first time in FY06 with the offering of the courses below.

- Canada Winter Weather Workshop (outside funding)
- AWOC – Winter Track

The Canada Winter Weather Workshop funded by the Meteorological Service of Canada (MSC) will again be offered in FY06. Funding is provided for two NWS staff from the Alaska Region to attend this course. A new track of the AWOC course called the AWOC – Winter Track is being developed for scheduled delivery in FY06. This course, offered in a blended DL format of web modules and recorded teletraining sessions, will address forecast/warning tools and methodologies for operational winter weather products, and customer service issues. As part of the AWOC – Winter Track, WES simulations of winter weather will also be developed.

Tropical

Development will begin in FY06 on a Tropical Cyclone Operations Course with the training envisioned to be a blend of web modules, teletraining, and WES simulations. The training will address forecast/warning tools and methodologies associated with tropical cyclones including track, intensity, size, and forecast uncertainty using probabilistic products.

- Begin development on a Tropical Cyclone Operations Course for delivery in FY07

Information Technology

IT training is regarded as mission-critical to ensure operational continuity of IT networks and services. Funds are provided for the existing IT SANS course or equivalent training in FY06, which is mandatory training for new IT personnel.

- IT SANS course or equivalent training

Several other training initiatives were proposed by the IT team; however, these initiatives were not funded due to budget constraints and lack of a mandate. Funding for some of these other initiatives may come from the Regional Training Funds described at the end of this section.

Safety/Environment

Safety and environmental focal points in NWS offices promote the critical value of safety and environmental compliance to all employees, and focal points must ensure that applicable laws and regulations are being followed. The following training courses and new initiatives will be offered in FY06:

- Safety
- Environmental Compliance
- Fall Protection and Rescue (attrition)
- Fall Protection and Rescue (re-certification)
- Safety Refresher
- Environmental Compliance Refresher

Beginning in FY05, a Safety Refresher course and an Environmental Compliance Refresher course were offered to safety and environmental focal points and provided with other NWS funding. The refresher courses were well-received by attendees in FY05, and funding is recommended for these courses in FY06. There were many other safety and environmental initiatives proposed by the Safety/Environment team, including Spill Prevention and Countermeasure Control (SPCC), CPR/First Aid, DuPont Safety Training for Operation Managers, etc. Once again, the Regional Training Funds will be the only source available to possibly fund some of this additional training.

Hydrology

Hydrology is another extensive mission-critical program within the NWS. The following training courses and new initiatives will be offered in FY06:

- Advanced Hydrologic Applications
- Flash Flood Hydrology and QPE Workshop
- Advanced Hydrologic Science
- RFC Workshops
- Enhancements to AWIPS Hydrologic Applications

The Hydrology team recommended that two courses, Hydrology Program Management and WFO Hydrologic Forecast System (WHFS), could be combined using a blended learning approach. This would reduce the overall residence requirement of these combined courses to one week. The Hydrology team also believes that much of the WHFS Workshop could be converted to a DL format. These options will be reviewed in FY06. Funding is also provided for a training initiative entitled Enhancements to AWIPS Hydrologic Applications. This training would be part of the AWIPS Build Delta Training (see *AWIPS* heading within this section) and include updates of software from WHFS, the NWS River Forecast System, and the Flash Flood Monitoring and Prediction system. Reduced funding is also being provided for RFC workshops in FY06. As technology and science continuously evolve, these workshops allow RFC staff to keep abreast of impacts to hydrological applications and tools.

It is recommended to continue to fund the dedicated hydrology development DL team at COMET jointly by the Training Division and the NWS OHD in FY06. This item falls under the non-discretionary funding in Table 3. The hydrology team will focus on the development of training in the following areas:

- Flash Flood/Intense Precipitation
- Basic Hydrologic Science
- Advanced Hydrologic Science
- Hydrologic Ensemble Forecasts

Space Weather

Space weather is having more operational impact at field offices than ever before, requiring enhanced awareness by NWS employees. In FY05, a web module was developed to increase the understanding and potential impact of space weather phenomena on general aviation and other infrastructures. The NSTEP team believes this module will generally fulfill the training requirements submitted in this program area.

Public Health/Air Quality

Web modules on dispersion modeling currently exist for use by NWS field forecasters in support of emergency management agencies after the release of hazardous gases or materials in the atmosphere. A web-based training program for dispersion and response to toxic atmospheric releases will be completed in FY06.

Numerical Weather Prediction

The accuracy of NWS forecasts beyond 12 hours is largely driven by the forecaster's ability to correctly interpret and understand the available operational NWP guidance. In order to maintain and improve forecaster proficiency in a period of rapidly evolving NWP systems, two dedicated project scientists will continue to provide this training. This item falls under the COMET non-discretionary funding in Table 3.

- Use of the NCEP NAM WRF model
- MOS Guidance Training
- Application of Ensemble Prediction Systems in the Forecast Process
- Updating the "Characteristics of Operational NWP Models" Matrix
- Appropriate Use of High Resolution Model Guidance in the Forecast Process
- Use of Marine Wave Models in the Forecast Process

The provision of NWP training is especially critical during FY06 when the NWS operational NAM Eta model is replaced with the NAM WRF model. Training associated with the new NAM WRF model was given the highest priority by the NWP team. Other NWP training initiatives which will be funded in FY06 involve the appropriate use of various sources of guidance in the forecast process including MOS (downscaled to a 5-km grid), ensembles, high resolution model guidance and marine wave models. Training will include the impacts of such guidance on the National Digital Forecast Database (NDFD). The training initiative for Ensemble Prediction Systems will include both meteorological and hydrologic ensemble forecasts. The NWP trainers will also maintain and update the “Characteristics of Operational NWP Models” matrix. This matrix gives one-stop information on model configurations for NCEP, Navy, Air Force, and Canadian models, with the focus on operational application rather than simply documenting what is in the models.

In addition to the NWP team efforts, a separate initiative to provide NWS field offices with a workstation version of the WRF model will continue through FY06. The availability of the SOO Science and Training Resource Center WRF Environmental Modeling System (STRC WRF EMS) will afford forecasters a valuable opportunity to become familiar with the operational NAM WRF before it goes live in March 2006. After the initial release of the model to the WFOs in late FY05, training and updates will be provided throughout FY06.

Climate

The focus and attention on climate has continued to increase for the past several years.

- Climate Services Operations
 - PR Climate Services Operations
 - AR Climate Observations and Local Climate Products

There will be two offerings of the Climate Services Operations course with OCWWS’ Climate Services Division (CSD) providing matching funds for one of the two offerings. This course will be held in Kansas City which is cost effective. Matching funds from CSD will also be provided for the PR Climate Services Operations course, which is a new course tailored to specific climate issues within the PR. The AR Climate Observations and Local Climate Products course is also new in FY06 and directed at the climate focal points at the AR Weather Service Offices (WSOs) for specific AR climate issues. AR plans to share costs for their new course if possible.

Observing and Data Acquisition

Two courses will be offered again in FY06 to support mission-critical programs with regards to data acquisition and observations.

- Data Acquisition and Operations (DATAC)
- Cooperative Network Operations

Training requirements for the NWS data acquisition process are met by the DATAC course and the Cooperative Network Operations course. The Cooperative Network Operations course also supports the Cooperative Observer Program, now referred to as NOAA’s Environmental Real-Time Observation Network (NERON).

Marine/Tsunami

The importance of marine/tsunami training to NWS operations has increased significantly since the devastating Indonesian tsunami of December 2004.

- Regional Marine/Tsunami Workshops (possible outside funding)
- Advanced Tsunami Training (possible outside funding)

Regional Marine/Tsunami Workshops have proven to be an effective way to address unique marine issues such as forecasting ocean/lake waves, local winds, and tsunamis. The workshops are currently recommended for funding within the NSTEP process; however, other NWS Headquarters resources tied to tsunami issues are being pursued to fund this training activity. The Marine/Tsunami Team also submitted an initiative for Advanced Tsunami Training. The additional tsunami funds are needed from NWS Headquarters to support this training activity.

A marine DL team at COMET is covered by the non-discretionary funds outlined in Table 3. This team will complete and deliver the following training web modules in FY06:

- Rip Currents: Case Study
- Rip Currents: Worksheets
- Rip Currents: Forecasting
- Shallow Water Wave
- Winds in the Marine Boundary Layer

Aviation

Different funding sources have supported aviation training requirements during the past several years. In FY05, an Aviation Operations Course in DL format was delivered with the goal of increasing forecaster awareness of how aviation products and services impact the aviation user community. In FY06, funds from OCWS's Aviation Support Branch will again partially support a DL team at COMET in the development of aviation training, and continue expanding on the completed baseline course called DLAC-1.

- DLAC-2: Building an Effective TAF
- Development of a WES case on ceiling and visibility

Integrated Sensor Training

Funding is again recommended to support NOAA's VISIT, although funding was significantly reduced in FY06 due to budget constraints. The VISIT team includes staff from NWS, NESDIS, and other Cooperative Institutes. The VISIT team supports satellite and related remote sensing training and provides assistance with live and recorded teletraining. The Warning Decision Training Branch supports radar training.

- VISIT teletraining and software
- SHyMet course (NESDIS funding)
- WSR-88D DLOC
- WSR-88D Build Training
- NPOESS/Userport Training (NESDIS funding)
- GOES online updates (NESDIS funding)

The VISIT program provides science infusion training directly to forecasters and other staff. Training is done by teletraining sessions using VISITview software, which allows for a live, annotated presentation of graphics with an expert instructor. Once the live teletraining sessions are completed, they are recorded and added to the VISIT and NOAA Learning Management System (LMS) websites for students to use at any time. Funding also supports the evolution of the VISITview software and the delivery of a wide array of teletraining sessions on topics such as AWIPS satellite data and products, and polar satellite imagery products. In addition to the sessions developed by the VISIT team, the funding supports teletraining done by other NOAA training teams, such as the climate, NWP, aviation, marine and international training communities. In collaboration with the VISIT program, NESDIS is funding the development of the SHyMet course. NWS and NESDIS staff are working together to determine if the VISIT funding reduction in FY06 will impact the completion and delivery of SHyMet.

The WSR-88D DLOC will again be offered in FY06 for new NWS forecasters and interns who have not completed the original WSR-88D residence course or a previous DLOC. DLOC utilizes blended learning with teletraining sessions and a 3-day residence workshop. WSR-88D Build Training will also continue to be offered, and this training will allow forecasters to keep pace with software and hardware upgrades associated with the new ORDA unit.

The NPOESS program will continue to fund the development of NPOESS/Userport training and education activities regarding current and future polar-orbiting satellite systems. NESDIS will continue to provide funding for insertion of GOES data and products into web-based modules.

Homeland Security/Emergency Response

Since September 11, 2001, NWS field offices have been asked to play an ever-increasing role in providing support to the emergency management community and other federal/state/local agencies during and after major emergencies. The NSTEP team recommends a DL course on emergency response be developed in FY06 to support operational forecasters and increase readiness for emergencies.

- Development of a DL course on emergency response

Outreach (Warning Coordination Meteorologists)

The Warning Coordination Meteorologist (WCM) course is residence training offered to new NWS WCMs every other year. The next scheduled offering is in FY07. NOAA's Office of Education and Sustainable Development (OESD) conducted a pilot residence course of outreach training for 20 WCMs in FY05. Representatives from NWS Regions and the Training Division were invited to attend and evaluate this new course.

NOAA Service Outlets

NOAA's service vision includes the utilization of NWS' widely dispersed field offices as service outlets for public and government inquiries regarding all available NOAA services. This evolving concept is referred to as NOAA Service Centers, which supports a "one NOAA" philosophy. To support this goal, NWS field offices need training in the breadth of NOAA services. Since this training is a NOAA-wide need, the NOAA Service Outlets team recommends that the NOAA Education Council (NEC) take the lead to fund and deliver this training. The training is envisioned to be focused along NOAA's five major strategic goals and targeted at NOAA field office employees.

- Development of a DL course on NOAA services (outside funding)

Administration

NWS administrative personnel are responsible for implementing and sustaining a wide range of administrative/budget programs including budget formulation and execution, travel, human resources, property, and procurement. Training will be required on new processes (e.g., WebTA, E-Travel, etc.) to ensure current standards are met within the multiple program areas. In many cases, administrative/budget personnel will be expected to train other personnel on these new processes. A reduced level of funding is provided to cover travel costs to either NOAA Administrative Support Centers or to NWS Headquarters for administrative personnel attending training.

- Travel support to attend administrative training

Management/Leadership

NOAA requires 80 hours of residence management training for new supervisors and encourages leadership training for all supervisors as part of their long-term professional development.

- Executive Leadership Seminar
- Field Operations Management
- Management and Supervision
- Labor/Management Relations CD

The supervisory training requirement is met by the current Management and Supervision course. Both the Executive Leadership Seminar and the Management and Supervision course are open to attendees from other NOAA Line Offices and other federal agencies. The Executive Leadership Seminar develops advanced leadership competencies. The Field Operations Management course provides important information and guidance to our field forecasters. All three offerings are part of a progressive and sequential approach to leadership development.

A Labor and Management Relations (LMR) training package was requested by NWS senior management to provide formal and consistent LMR training to all NWS managers. Since the NWS Collective Bargaining Agreement (CBA) is unique to our agency, a set of training materials is being developed and will be delivered in FY06 on a CD. This training includes a summary of all the CBA Articles, 10-minute Instant Lessons for important topics, and a quiz at the end of each section to reinforce learning.

Diversity/EEO

Diversity training in our workforce enhances teamwork, recognizes differences and similarities in people, and develops better working relationships on an individual and organizational level. The NSTEP team recommends funding for a webcast entitled “The Potential is Yours” by Griggs Productions in FY06. This diversity training will be useful for all NWS and NOAA employees and will replace the outdated NWS diversity module produced in the mid 1990s.

- A webcast entitled “The Potential is Yours”

Regional Training Funds

The Regional Training Funds are often the only available resource to meet unique training requirements in mission-critical areas. The constrained budget environment forced the Regional Training Funds to be significantly reduced in FY06. Nonetheless, without this source of funds, the Regions/NCEP would lose all flexibility in meeting their unique high priority training items. The Regional Training Funds are typically used for the following areas of training, which did not receive sufficient funding in the FY06 NSTEP process:

- Local facilities training
- Local IT training such as system administration, networking, security, etc.
- Specialized safety training
- Replacement of WES hardware
- Additional hydrology training from local universities
- Training for administrative personnel
- Travel for NWS/university projects and workshops supporting collaborative research

Section B. International Training Plans

Each year, the NWS International Activities Office (IAO) provides training to a variety of international agencies, often utilizing NWS expertise and resources as well as international collaboration. IAO promotes the integration of international and NWS training for cost savings and to harmonize meteorological and hydrological forecasts and products across borders.

Below are specific international training activities planned in FY06:

- Collaboration with Canada: IAO continues to support shared training events between Canada and the United States. Events such as the Canada Winter Weather Workshop will bring forecasters from the MSC and the NWS together to integrate products and improve the accuracy of forecasts in the region.
- NCEP Desks: There are two weather forecasting programs and one climate training program called “Desks” at NCEP. The South American and Tropical Desks bring forecasters from countries including Mexico, Colombia, Jamaica, Chile, and others, into a one-on-one tutoring program devoted to numerical weather prediction and improving the lead time of storm predictions and mitigation of natural disasters. The VISIT team supports this activity in coordination with the World Meteorological Organization (WMO) Virtual Laboratory task team. In addition, the African Desk tutors climate forecasters with emphasis on seasonal predictions to help combat drought and famine in Africa.
- Pacific Desk: The Pacific Desk in Hawaii, similar to the NCEP desks referenced earlier, takes meteorologists from the Pacific islands and Asia and trains them for three weeks on forecasting. Notebook computers are given to each graduate, which is a great benefit since computers are scarce and electrical power is sporadic on several of the Pacific islands. A notebook computer will run for a few hours on a fully charged battery and give the forecaster a better chance to stay online during critical weather conditions.

- Distance Learning Graduate Courses: IAO is seeking ways to improve forecasting and retrieve more meteorological and hydrological data in areas vital to the NWS such as the Caribbean, Mexico, and Central and South America. These areas have a dire need to offer personnel opportunities to earn advanced degrees both for retention and for improved forecasts. A mechanism is being developed to offer Masters in Meteorology and Hydrology Degrees online at no cost to the students. IAO is working with several universities and contractors to put such a program in place in the near future.
- South Africa Teachers Course: Annually, two or more South African school teachers come to the United States to take a meteorology course to enable them to teach meteorology to their students upon returning to the classroom. This program has existed for the past several years with positive results.
- Hurricane Training Course. Annually, up to 22 international forecasters gather at NCEP's Tropical Prediction Center to discuss the latest technologies on hurricane/tropical storm prediction. Several NWS employees are involved in the planning and training of these forecasters.
- Romanian Training Course: In October a 1-week course on Hydrologic Program Management will be offered to a group of five hydrologists working to modernize the Romanian Hydrometeorological Program.
- Pacific Region Micronesia Meteorologist University Program: Pacific Region Headquarters is heading up an initiative to place one Meteorologist-in-Charge (MIC) and one forecaster in each of the five WSOs located in the Republic of the Marshall Islands, the Federated States of Micronesia, and the Republic of Palau. The plan is for the NWS WSOs within these countries to place more automated equipment and more meteorologists in these regions so they can become self-sufficient over time with the provision of day-to-day forecasting as well as Watch, Warning, and Advisory services.

Section C. Other Training Expenditures

Plans are presented below for Base-funded and AWIPS-funded training activities in FY06. Refer to Table 3 for training items associated with these non-discretionary Base and AWIPS funds. Note: These items are not prioritized by the FRG.

Base-Funded Activities:

1. COMET/University Corporation for Atmospheric Research (UCAR) Cooperative Agreement (Core funding, Hydrology Team, and Classroom).

Core funding (Base) for the COMET/UCAR Cooperative Agreement supports the following costs:

- Infrastructure
- A specialized DL team delivering 5-7 hours of web-based training modules (Appendix 2, Section A, Marine/Tsunami and Fire Weather)
- Support for the COMET Meteorology, Education, and Training (MetEd) website

Another COMET activity in Table 3 is the COMET Hydrology Team which is jointly supported by Training Division and Office of Hydrologic Development Base funds. Training plans for the DL development in FY06 were described in Section IV, Hydrology. The other COMET Base expenditure in Table 3 is the cost for running the COMET classroom.

2. Training Division Operating Budgets and Communications.

These are the Base-funded non-labor operating budgets for the Training Division Headquarters (OS6), the Forecast Decision Training Branch (FDTB, OS63), and the National Weather Service Training Center (NWSTC, OS61). The annual operating budget for these facilities includes printing, supplies, equipment, staff travel, and staff training. The annual cost for communications, including teletraining and teleconferencing, are also listed in this section.

3. Miscellaneous Costs.

- **Learning Management System (LMS):** The OCWWS Training Division works in concert with NOAA and the Department of Commerce (DOC) personnel on development of the LMS. The Training Division also oversees the implementation of the LMS for NWS. The LMS is expected to streamline planning, registration, completion, and tracking of training activities at all levels of the NWS. The NWS LMS is a web-based system hosted by GeoLearning Corporation, and it is part of a NOAA and DOC LMS initiative. Framed as a virtual campus, the DOC LMS website organizes training by bureau and Line Office within DOC. Another part of the LMS is the inclusion of third-party on-line courses on a variety of topics. All NWS employees and contractors have access to a suite of e-learning courses developed by NetG and Skillsoft, at least through May 31, 2006. Some early successes have been achieved using DL modules and further implementation is continuing; however, significant challenges remain for full implementation, especially in the area of Instructor Led Training (ILT). After the LMS is fully implemented, the Training Division will supply documentation and training to all offices. Additional information about LMS and e-learning can be found at the following website:

<http://e-learning.doc.gov/>

- **University Assignment Program (UAP):** Resources are provided to fund selected staff for full and part-time training assignments in a job- or career-related study at an accredited educational institution. The funding for this program is transferred to the Training Division Base budget from the NWS Chief Financial Officer.
- **Leadership Competencies Development Program (LCDP):** This program allows selected staff to enhance their leadership skills in an 18-month NOAA training program which includes mentoring, workshops, career-broadening developmental assignments, and participation in specific corporate NOAA and Line Office initiatives. The costs in Table 3 are associated with students who entered LCDP in FY05.
- **Prior Year Costs:** This budget item accounts for costs of activities that occur late in the previous fiscal year which are paid in the current year. All budgets plan for prior year costs.

AWIPS-Funded Activities:

1. COMET/UCAR Cooperative Agreement (Core funding, NWP Project Scientists, and Classroom).

Core funding (AWIPS) for the COMET/UCAR Cooperative Agreement supports the following costs:

- Infrastructure
- Two project scientists for NWP initiatives (Section IV, Numerical Weather Prediction)
- Support for the COMET MetEd website

The other COMET AWIPS expenditure in Table 3 is the cost for running the COMET classroom.

2. FDTB (OS63) AWIPS Operating Budget.

This portion of the FDTB budget is the operating costs associated with the AWIPS IFPS team and AWIPS Build Delta training which includes printing, supplies, equipment, staff travel and staff training.

3. NWSTC (OS61) AWIPS Operating Budget.

This portion of the NWSTC budget is the operating costs associated with the IFPS team and the AWIPS Build Delta training which includes printing, supplies, equipment, staff travel and staff training.

FY06 OCWWS Training Division	NOAA	NWS		#		Final	#	Cost	#	#	Cost	Cost	
Table 1: Residence Courses by Program Areas (Discretionary)	Strategic Goals	GPRA Categories	Funding Source	# Days/ Course	Students/ Course	Requested Slots	Requested Slots	Requested Courses	Requested Courses	Funded Courses	Students Trained	Funded Courses	Unfunded Courses
AWIPS													
AWIPS Applications Development	3, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	AWIPS	3.5	16	41	32	2	\$39,594	2	32	\$39,594	\$0
AWIPS Operations Support	3, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	AWIPS	8	16	53	48	3	\$111,638	1	16	\$37,213	\$74,425
AWIPS System Manager	3, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	AWIPS	12	16	42	32	2	\$98,607	1	16	\$49,304	\$49,304
LINUX for WFOs/RFCs	2, 3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	AWIPS	8	12	101	96	8	\$211,924	7	84	\$191,435	\$20,488
Engineering/Electronics													
ASOS Maintenance	2, 3, 4, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	ASOS	13	8	30	24	3	\$77,451	3	24	\$77,451	\$0
ART Rawinsonde System Maintenance	2, 3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	BASE	13	6	23	18	3	\$58,088	3	18	\$58,088	\$0
CRS Maintenance	2, 3, 4, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	6	8	51	48	6	\$91,979	6	48	\$91,979	\$0
NWR/Armstrong Transmitter Maintenance	2, 3, 4, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	3	5	26	25	5	\$30,932	5	25	\$30,932	\$0
NWR/Crown Transmitter Maintenance	2, 3, 4, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	3	5	21	20	4	\$24,746	4	20	\$24,746	\$0
NWR/SRS Transmitter Maintenance	2, 3, 4, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	3	4	18	16	4	\$36,930	3	12	\$27,697	\$9,232
WSR-88D Maintenance	2, 3, 4, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 8	NEXRAD	33	8	25	24	3	\$175,332	3	24	\$175,332	\$0
WSR-88D MLOS Maintenance	2, 3, 4, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 8	NEXRAD	3	8	5	8	1	\$24,598	1	8	\$24,598	\$0
WSR-88D Open RDA Maintenance	2, 3, 4, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 8	ORDA	6	8	2	104	13	\$199,288	13	104	\$199,288	\$0
RRS Maintenance	2, 3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	RRS	8	4	44	44	11	\$97,132	11	44	\$97,132	\$0
Forecaster Development Program													
CRS Network Operations	2, 3, 4, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	BASE	3	8	16	16	2	\$19,797	2	16	\$19,797	\$0
Winter Weather													
Canada Winter Weather Workshop	3, 4, 5, CP1	3, 4, 5, 6, 8	BASE	10.5	6	2	2	1	\$5,453	1	2	\$5,453	\$0
Safety/Environment													
Safety/Training (attrition)	5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	3.5	30	32	30	1	\$60,744	1	30	\$60,744	\$0
Safety/Environmental Compliance (attrition)	5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	3	27	30	27	1	\$57,032	1	27	\$57,032	\$0
Safety/Fall Protection & Rescue (attrition)	5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	3	16	37	32	2	\$42,990	2	32	\$42,990	\$0
Safety/Fall Protection & Rescue (re-cert)	5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	2	16	150	144	9	\$130,965	8	128	\$116,414	\$14,552
Safety/Fall Protection & Rescue (attrition)	5, CP1	1, 2, 3, 4, 5, 6, 7, 8	NEXRAD						\$21,174			\$21,174	\$0
Safety/Fall Protection & Rescue (re-cert)	5, CP1	1, 2, 3, 4, 5, 6, 7, 8	NEXRAD						\$130,965			\$116,414	\$14,552
Hydrology													
Hydro/Advanced Hydrologic Applications	3, CP1	2, 3, 4, 5, 6, 8	AWIPS	3	8	68	64	8	\$108,882	4	32	\$54,441	\$54,441
Hydro/Flash Flood Hydro/QPE Workshop	3, CP1, CP4	2, 3, 4, 5, 6, 8	AWIPS	3	27	68	54	2	\$66,609	2	54	\$66,609	\$0
Hydro/Advanced Hydrologic Science	3, CP1, CP4	2, 3, 4, 5, 6, 8	BASE	8	16	29	16	1	\$34,664	1	16	\$34,664	\$0
Climate													
Climate Services Operations	2, 3, CP1	6, 7	BASE	3	27	54	54	2	\$87,482	2	54	\$43,741	\$43,741
Climate/PR Climate Svcs Operations (Host:PR)	2, 3, 4, 5, CP1	6, 7	BASE	3	10	10	10	1	\$11,500	1	10	\$11,500	\$0
Clim./AR Clim.Obs&Local Clim. Prods(Host:AR)	2, 3, CP1	6, 7	BASE	3	10	10	10	1	\$16,000	1	10	\$16,000	\$0
Observing and Data Acquisition													
Cooperative Network Operations	2, 3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	BASE	8	16	32	32	2	\$78,065	2	32	\$78,065	\$0
Data Acquisition Operations	2, 3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	BASE	3.5	16	64	64	4	\$82,971	3	48	\$62,228	\$20,743
Integrated Sensor Training													
DLOC	3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 8	NEXRAD	3.5	20	80	80	4	\$114,786	4	80	\$114,786	\$0
Management/Leadership													
Mgmt/Executive Leadership Seminar (ELS)	3, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	8.5	35	70	70	2	\$240,235	1	35	\$120,118	\$120,118
Mgmt/Field Operations Management	3, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	4.5	24	96	96	4	\$143,264	3	72	\$107,448	\$35,816
Mgmt/Management and Supervision	3, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	9.5	20	40	40	2	\$102,404	2	40	\$102,404	\$0
Table 1: BASE Requested Training:	\$1,356,241												
Table 1: AWIPS Requested Training:	\$637,254												
Table 1: NEXRAD Requested Training:	\$466,856												
Table 1: ORDA Requested Training:	\$199,288												
Table 1: RRS Requested Training:	\$97,132												
Table 1: ASOS Requested Training:	\$77,451												
Table 1: Total Requested Training:	\$2,834,222												
Table 1: BASE Funded Training:	\$1,112,040												
Table 1: AWIPS Funded Training:	\$438,595												
Table 1: NEXRAD Funded Training:	\$452,304												
Table 1: ORDA Funded Training:	\$199,288												
Table 1: RRS Funded Training:	\$97,132												
Table 1: ASOS Funded Training:	\$77,451												
Table 1: Total Funded Training:	\$2,376,810												
Table 1: BASE Unfunded Training:	\$244,201												
Table 1: AWIPS Unfunded Training:	\$198,659												
Table 1: NEXRAD Unfunded Training:	\$14,552												
Table 1: ORDA Unfunded Training:	\$0												
Table 1: RRS Unfunded Training:	\$0												
Table 1: ASOS Unfunded Training:	\$0												
Table 1: Total Unfunded Training:	\$457,412												
Table 1: Total Training Requirements:	\$2,834,222												

FY06 OCWWS Training Division	NOAA	NWS		Cost				Cost	Cost
Table 2: Funded Training by Program Areas (Discretionary)	Strategic	GPRA	Funding	Requested	Delivery			Funded	Unfunded
Code: F=FDTB; N=NWSTC; W=WDTB	Goals	Categories	Source	Training	(DL=Distance)	Contractors	FTE Resources	Training	Training
AWIPS									
AWIPS Build (Delta) Training (NEXRAD)	3, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	NEXRAD	\$5,000	DL	W: CIMMS 0.7	F/N/W: 3.65	\$5,000	\$0
AWIPS Build (Delta) Training (AWIPS)	3, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	AWIPS	\$23,729	DL		FTE abv for both fund sources	\$23,729	\$0
AWIPS Enhancements to WES to Improve Build Delta Trng	3, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	NEXRAD	\$2,000	WES		W: CIMMS 0.1	\$2,000	\$0
Engineering/Electronics									
Intro to NWS Systems	2, 3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	BASE		Convert to DL		N: 0.5 (+0.05 for maint)	yes	
Terminal Doppler Weather Radar (TDWR)	2, 3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 8	NEXRAD		DL			yes	
Digital Services									
IFPS Focal Point Course and IFPS New Build Training	3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	AWIPS	\$5,000	DL		F: 0.5, N: 1.6	\$5,000	\$0
Emerging Topics in DS Software, Techniques, and Datasets	3, 4, CP1, CP2, CP3	1, 2, 3, 4, 5, 6, 7, 8	AWIPS		DL		F: 3.5, N: 3.0	yes	
Applied IFPS Science Techniques (Use of Smart Tools)	3, 4, CP1, CP2, CP3	1, 2, 3, 4, 5, 6, 7, 8	AWIPS		DL		F: 1.0, N: 0.3	yes	
The NWS Digital Services Forecast Process	3, CP1	1, 2, 3, 4, 5, 6, 7, 8	AWIPS		DL		F/N/W: 2.4 combined	yes	
Fire Weather									
Incident Meteorologist (IMET) Workshop	3, 5, CP1	6, 7	BASE	\$102,920	Residence			\$70,000	\$32,920
Advanced Fire Weather Forecasters Course (S-591)	3, 5, CP1	6, 7	BASE	\$35,000	Residence/DL	F: 61K (COMET core)		\$35,000	\$0
Integrated Warning Process									
WES Development and Support	3, CP1	1, 2, 3, 4, 5, 6, 7, 8	NEXRAD	\$2,000	WES	W: CIMMS 2.3	W: 0.1	\$2,000	\$0
AWOC Core and Severe Tracks (attrition)	3, CP1, CP3	1, 2, 3, 4, 5, 6, 8	NEXRAD	\$12,000	DL/Teletrng	W: CIMMS 0.5	W: 0.5	\$12,000	\$0
Winter Weather									
AWOC - Winter Track	3, 4, CP1	3, 4, 5, 6	NEXRAD	\$15,000	DL/Teletrng	W: CIMMS 0.9	W: 2.4	\$15,000	\$0
Tropical									
Tropical Cyclone Operations Course	2, 3, 4, 5, CP1	1, 2, 3, 4, 5, 6, 8	NEXRAD		DL/Teletrng	W: CIMMS 0.9	W: 2.4	yes	
Information Technology									
IT - SANS or Equivalent Training	2, 3, 4, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$51,800	DL	VENDOR		\$51,800	\$0
Safety and Environmental									
Environmental Compliance Refresher Course	5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$12,500	DL	Vendor: Effective Answers		\$12,500	\$0
Safety Refresher Course	5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$13,000	DL	Vendor: Effective Answers		\$13,000	\$0
Hydrology									
Enhancements to AWIPS Hydrologic Applications	3, CP1	2, 3, 4, 5, 6, 8	AWIPS	\$3,000	DL	W: CIMMS 0.2	N: 0.5 WHFS, 1.5 NWSRFS	\$3,000	\$0
RFC Workshops	3, CP1, CP4	2, 3, 4, 5, 6, 8	BASE	\$70,000	Residence			\$38,356	\$31,644
Public Health/Air Quality									
Dispersion Forecasting Training	3, 4, CP1, CP3	3, 4	BASE		DL			yes	
Numerical Weather Prediction									
Use of NCEP North American Mesoscale WRF	3, CP1, CP3	1, 2, 3, 4, 5, 6, 7, 8	BASE		DL/Teletrng	F: COMET 0.9	F: 0.5	yes	
MOS Guidance Training (incl. 5-km gridded MOS for NDFFD)	3, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE		DL/Teletrng	F: COMET 0.2		yes	
Application of Ensemble Prediction Systems..Fest Process	3, CP1, CP3, CP4	1, 2, 3, 4, 5, 6, 7, 8	BASE		DL	F: COMET 0.3+FDTB 0.1(hydro)		yes	
Updating the "Characteristics of Oper. NWP Models" Matrix	3, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE		DL	F: COMET 0.1		yes	
Appropriate Use of High Resolution Model Guidance...	3, CP1, CP3	1, 2, 3, 4, 5, 6, 7, 8	BASE		DL	F: COMET 0.3		yes	
Use of Marine Wave Models in the Forecast Process	3, 4, CP1	2, 3, 4, 5, 6, 8	BASE		DL	F: COMET 0.03		yes	
Marine/Tsunami									
Regional Marine/Tsunami Workshops	3, 4, CP1	2, 3, 4, 5, 6, 8	BASE	\$25,000	Residence			\$25,000	\$0
Advanced Tsunami Training	3, 4, CP1	2, 3, 4, 5, 6, 8	BASE	\$50,000	DL	F: COMET 50K		possible	
Integrated Sensor Training									
WSR-88D Build Training	3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 8	NEXRAD	\$2,000	DL	W: CIMMS 0.5	W: 1.5	\$2,000	\$0
VISIT Teletraining Sessions	3, 4, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 8	BASE	\$400,000	VISIT	F: VISIT 400K (FY 05: 480K)	W: 0.1 collaboration	\$243,500	\$156,500
NPOESS/Userport Training	3, 4, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 8	NESDIS		DL	F: COMET		yes	
Homeland Security/Emergency Response									
National Emergency Response	3, 5, CP1	3, 4	NEXRAD		DL	W: CIMMS 0.7	W: 2.0	yes	
NOAA Service Outlets									
NOAA Service Center Training	1, 2, 3, 4, 5, CP1, CP4	1, 2, 3, 4, 5, 6, 7, 8	NOAA/NEC	Unknown	DL			possible	
Administration									
Regional and Hdqt FMC Admin Staff Training	5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$30,000	Residence			\$23,500	\$6,500
Diversity/EEO									
Diversity/EEO Training	5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$4,700	DL			\$4,700	\$0
Regional Training Funds									
Regional Training Funds (multiple program areas)	2, 3, 4, 5, CP1, CP2, CP3	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$100,000	Residence/DL	Various/Local vendors		\$100,000	\$0
Regional Training Funds (replace WES hardware)	2, 3, 4, 5, CP1, CP2, CP3	1, 2, 3, 4, 5, 6, 7, 8	AWIPS	\$90,000	Residence/DL	Various/Local vendors		\$90,000	\$0
Table 2: Base Requested Training:	\$844,920								
Table 2: AWIPS Requested Training:	\$121,729								
Table 2: NEXRAD Requested Training:	\$38,000								
Table 2: Total Requested Training:	\$1,004,649								
Table 2: Base Funded Training:	\$617,356								
Table 2: AWIPS Funded Training:	\$121,729								
Table 2: NEXRAD Funded Training:	\$38,000								
Table 2: Total Funded Training:	\$777,085								
Table 2: BASE Unfunded Training:	\$227,564								
Table 2: AWIPS Unfunded Training:	\$0								
Table 2: NEXRAD Unfunded Training:	\$0								
Table 2: Total Unfunded Training:	\$227,564								
Table 2: Total Training Requirements:	\$1,004,649								

FY06 OCWWS Training Division		NOAA	NWS		Cost				
Table 2a: Unfunded Training by Program Area (Discretionary)		Strategic	GPRA	Funding	Requested	Delivery		Funded	Cost
Code: F=FDTB; N=NWSTC; W=WDTB		Goals	Categories	Source	Training	(DL=Distance)	Contractors	FTE Resources	Training
AWIPS									
Modifications to Local Applications Site Support Training		3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	NEXRAD	\$20,000	DL		N: 0.1	no \$20,000
Engineering/Electronics									
Transition Power Maintenance System (TPMS)		2, 3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 8	NEXRAD	Unknown	TBD	Unknown FY06 costs.	N: FTE not avbl until FY 07	no
Facilities		2, 3, 4, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	BASE	Unknown	Unknown	Recommend vendor.		no
NOAA Engineering and Electronics Best Practices Workshop		2, 3, 4, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$35,000	Residence		N: 0.05	no \$35,000
NOAA's Environ. Real-Time Observation Network (NERON)		2, 3, 4, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	BASE		DL	W: CIMMS 0.2	W: 0.2	no
Terminal Doppler Weather Radar (TDWR)		2, 3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 8	NEXRAD		Residence		N: Unknown	no
Wind Profiler Network (449 MHz)		2, 3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8			DL	W: CIMMS 0.2	W: 0.2	no
Digital Services									
Grid Forecast Verification, Assessment, and Perf. for NDFD		3, 4, CP1, CP3	1, 2, 3, 4, 5, 6, 7, 8	BASE		DL	W: CIMMS 0.1	W: 0.1, F: Unknown	no
Digital Services for FEMA and Emergency Managers		3, 4, 5, CP1, CP2, CP4	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$5,000	DL	W: CIMMS 0.2	W: 0.2, F: Unknown	no \$5,000
National Digital Services WCM Course		2, 3, 4, 5, CP1, CP2, CP4	1, 2, 3, 4, 5, 6, 7, 8	BASE		DL	W: CIMMS 0.3	W: 0.3, F: Unknown	no
Fire Weather									
Development of Training to Meet Fire Wx Proficiencies		3, CP1	6, 7	BASE	\$30,000	DL	F: COMET 30K		no \$30,000
Collaborative Effort to Convert "S" Series Fire Courses		3, CP1	6, 7	BASE	\$95,000	DL	F: COMET 95K		no \$95,000
Forecaster Development Program									
COMAP - Existing Course		2, 3, 4, CP1	1, 2, 3, 4, 5, 6, 8	BASE	\$109,677	Residence			no \$109,677
COMAP Boundary Layer Symposium - Existing Course		2, 3, 4, CP1	1, 2, 3, 4, 5, 6, 8	BASE	\$53,085	Residence			no \$53,085
Forecaster Development Program Residence Course		2, 3, 4, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$55,420	Residence/DL	W: CIMMS 0.1	W: 0.1, N: 0.3	no \$55,420
Integrated Warning Process									
IWP Training for Emergency Responders		3, CP1, CP4	1, 2, 3, 4, 5, 6, 8	NEXRAD	\$200,000	DL	W: CIMMS 1.0	W: 1.0	no \$200,000
IWP Training for Broadcasters		3, CP1, CP4	1, 2, 3, 4, 5, 6, 7, 8	NEXRAD		DL			no
Tropical									
Tropical Meteorology Training Course		2, 3, 4, 5, CP1	1, 2, 3, 4, 5, 6, 8	BASE	\$60,000	DL	F: COMET 60K		no \$60,000
Information Technology									
IT Security (SANS, CISSP, FISMA, C&A, Risk Mgmt,...)		3, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$100,000	DL	Vendor		no \$100,000
Geographic Information System (GIS) Training and Education		1, 2, 3, 4, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$350,000	Residence/DL	ESRI		no \$350,000
Web Server Administration and Application Training		2, 3, 4, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	Unknown	DL			no
Microsoft Windows Server 2003 Training		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$350,000	Residence	Vendor		no \$350,000
IT Office Automation/Applications (AutoCAD, MSProject, etc.)		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	Unknown	DL	Vendor		no
Safety and Environmental									
Spill Prevention and Countermeasure Control (SPCC) Plans		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$24,000	Residence/DL		NOAA RECO/NWS Region	no \$24,000
CPR/First Aid		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$66,500	Residence	Local Vendor (e.g., Red Cross)		no \$66,500
DuPont Safety Training for Operation Managers		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$61,000	Residence	Vendor: Dupont		no \$61,000
Stop Taking Avoidable Risks (STAR)		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$27,600	Residence	Vendor		no \$27,600
Designated Responsible Official Course		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$34,000	Residence	Vendor		no \$34,000
Specialized Safety Training for Remote NWS Personnel		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$39,000	DL	Vendor		no \$39,000
Accident Investigation Course		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$16,000	Residence?	Vendor		no \$16,000
Operational Risk Management		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$56,000	Residence/DL	NOAA dvlpg		no \$56,000
Advanced Safety Trng for E/S Regional/Org. Unit Coordinators		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$40,000	Residence	Vendor		no \$40,000
Library of Training Tools for NWS E/S Focal Points		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$43,000	DL	Vendor		no \$43,000
Department of Transportation (DOT) Training		5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$50,000	Residence	Vendor		no \$50,000
Hydrology									
Hydro/WFO Hydrology Program Management - Existing		3, CP1, CP4	2, 3, 4, 5, 6, 8	BASE	\$42,312	Residence		N: Unknown, F: Unknown	no \$42,312
Hydro/Basin Customization - Existing		3, CP1	2, 3, 4, 5, 6, 8	BASE	\$38,203	Residence			no \$38,203
Hydro/RFC/HPC Workshops - Existing		3, CP1	2, 3, 4, 5, 6, 8	BASE	\$49,957	Residence			no \$49,957
Hydro/WHFS Workshop - Existing		3, CP1	2, 3, 4, 5, 6, 8	AWIPS	\$11,136	Residence			no \$11,136
Verification of Hydrologic Forecasts		3, CP1, CP4	2, 3, 4, 5, 6, 8	BASE		DL		F: Unknown	no
Space Weather									
Airline Support Training		3, 4, 5, CP1, CP2, CP4		BASE	\$25,000	DL	F: COMET 25K		no \$25,000
High Frequency Radio Propagation		3, 4, 5, CP1, CP2, CP4		BASE	\$50,000	DL	F: COMET 50K		no \$50,000
Aurora		3, 4, 5, CP1, CP2, CP4		BASE	\$30,000	DL	F: COMET 30K		no \$30,000
Numerical Weather Prediction									
Forecast Impacts of Data Assimilation		3, CP1, CP3	1, 2, 3, 4, 5, 6, 7, 8	BASE		DL	F: COMET 0.1		no
Use of Great Lakes Marine Wave Models in the Fcst Process		3, 4, CP1	2, 3, 4, 5, 6, 8	BASE		DL	F: COMET 0.03		no
Climate									
Climate Variability Symposium		2, 3, CP1	6, 7	BASE	\$53,085	Residence			no \$53,085
Teleconnections		2, 3, CP1	6, 7	BASE	\$25,000	DL	F: COMET 25K		no \$25,000
Monsoons		2, 3, CP1	6, 7	BASE	\$25,000	DL	F: COMET 25K		no \$25,000
Marine/Tsunami									
Wind and Wave Forecasting		3, 4, CP1	2, 3, 4, 5, 6, 8	BASE	\$185,500	DL	F: COMET 185.5K	F: 1.5	no \$185,500
Aviation									
Regional/Sub-Regional Aviation Workshops		3, 4, CP1	1, 2, 3, 4, 5, 6, 8	BASE	\$70,000	Residence			no \$70,000
AvnFPS 3.0 Overview (Updates)		3, 4, CP1	1, 2, 3, 4, 5, 6, 8	BASE		Camtasia/VISIT		WFOs, N: 0.2	no
DLAC-2: Building an Effective TAF		3, 4, CP1		BASE	\$124,000	DL	F: COMET 124K		no \$124,000

Integrated Sensor Training									
SHyMet Courses	3, 4, 5, CP1, CP2	1, 2, 3, 4, 5, 6, 8	BASE	\$50,000	DL	F: VISIT 50K (LMS support)	W: 0.1 collaboration	no	\$50,000
IST New Products - Water Vapor Sensing Sys. (WVSS-II)	3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 8	BASE		VISIT		F/W/or VISIT: 0.25/module	no	
IST New Products - GPS Integrated Precip Water (IPW)	3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 8	BASE		VISIT		F/W/or VISIT: 0.25/module	no	
IST New Products - NOAA's Envir. Real-Time Obs. Network	3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 8	BASE		VISIT		F/W/or VISIT: 0.25/module	no	
IST New Products - Profilers	3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 8	BASE		VISIT		F/W/or VISIT: 0.25/module	no	
IST New Products - Trop. Airborne Met Data Rpt (TAMDAR)	3, 4, CP1, CP2	1, 2, 3, 4, 5, 6, 8	BASE		VISIT		F/W/or VISIT: 0.25/module	no	
Homeland Security/Emergency Response									
National Response Plan Training (Delivery to MIC/HIC Conf.)	3, 5, CP1	3, 4	BASE/Other	\$12,000	Residence			no	\$12,000
Homeland Security Training (Delivery at WCM Course)	3, 5, CP1	3, 4	BASE	\$1,800	Residence			no	\$1,800
Outreach (WCMs)									
Outreach/WCM Course	2, 3, 4, 5, CP1, CP4	1, 2, 3, 4, 5, 6, 7, 8	BASE		Residence			no	
National WCM Training Workshop	2, 3, 4, 5, CP1, CP4	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$250,000	Residence		W: 0.1 collaboration	no	\$250,000
Administration									
Program, Budget and HR Managers Learning Seminar	5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$40,000	Residence			no	\$40,000
Management/Leadership									
How to Improve Performance in Your Office	3, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$30,000	DL	W: 30K (SME expertise)	W: 0.2	no	\$30,000
Communications and Conflict Training	3, 5, CP1	1, 2, 3, 4, 5, 6, 7, 8	BASE	\$200,000	Residence/WFO			no	\$200,000
Table 2a: BASE Requested Training:	\$3,002,139								
Table 2a: AWIPS Requested Training:	\$11,136								
Table 2a: NEXRAD Requested Training:	\$220,000								
Table 2a: Total Requested Training:	\$3,233,275								
Table 2a: BASE Funded Training:	\$0								
Table 2a: AWIPS Funded Training:	\$0								
Table 2a: NEXRAD Funded Training:	\$0								
Table 2a: Total Funded Training:	\$0								
Table 2a: BASE Unfunded Training:	\$3,002,139								
Table 2a: AWIPS Unfunded Training:	\$11,136								
Table 2a: NEXRAD Unfunded Training:	\$220,000								
Table 2a: Total Unfunded Training:	\$3,233,275								
Table 2a: Total Training Requirements:	\$3,233,275								

FY06 OCWWS Training Division			
Table 3: Funded Training Activities (Non-Discretionary)			
A Comparison of FY05 Original and Cut Levels with Start Points and Remaining Funds for FY06	FY05 Funding	FY05 Funding	FY06 Funding
NOTE: Several "Non-Discretionary" items were actually cut in FY05.	Original	After Cuts	Assumed Flat
Non-Discretionary BASE Funding:			
Total BASE Start Point:	\$5,624,000	\$3,964,000	\$3,964,000
1. COMET/UCAR Cooperative Agreement			
COMET/UCAR Core funding	\$2,000,000	\$1,525,000	\$1,414,604
COMET Hydrology Team (partial funding)	\$160,000	\$160,000	\$166,000
COMET Classroom (based on priorities from Table 1)	\$32,000	\$32,000	\$16,000
COMET NWS SME Travel for Distance Learning Development	\$30,000	\$15,000	\$0
Total for COMET Base:	\$2,222,000	\$1,732,000	\$1,596,604
2. Training Division Operating Budgets and Communications			
Training Division (OS6) Base Operating Budget (this item formerly included as OS6+OS63 in IP05; now separated)	\$100,000	\$90,000	\$100,000
FDTB (OS63) Base Operating Budget	\$50,000	\$50,000	\$30,000
NWSTC (OS61) Base Operating Budget	\$320,000	\$198,000	\$198,000
Communications for Teletraining/Teleconferencing	\$30,000	\$30,000	\$30,000
Total for Training Division Operating Budgets and Communications:	\$500,000	\$368,000	\$358,000
3. Miscellaneous Costs			
Learning Management System - Recurring cost	\$100,000	\$75,000	\$100,000
University Assignment Program (UAP)- Note: Costs not orig.budgeted for in FY05. 24 stud. may return FY06;Cost:~50-60K.	\$0	\$0	\$110,000
Leadership Competency Development Program (LCDP) - Note: Costs not originally budgeted for in FY05.	\$0	\$0	\$10,000
Prior Year Costs - Note: Costs not originally budgeted for in FY05.	\$0	\$0	\$60,000
Total for Miscellaneous Costs:	\$100,000	\$75,000	\$280,000
Total Non-Discretionary BASE Budget:	\$2,822,000	\$2,175,000	\$2,234,604
What's Left:			
BASE Funds Available for All BASE Training Requirements in Tables 1 and 2:	\$2,802,000	\$1,789,000	\$1,729,396
Percent of Total Base Funds Remaining:	50%	45%	44%
Non-Discretionary AWIPS Funding:			
Total AWIPS Start Point:	\$1,607,720	\$1,313,720	\$1,313,720
1. COMET/UCAR Cooperative Agreement			
COMET/UCAR Grant (Core funding + \$287K for 2 NWP empl. in FY05 Cuts; Core ~\$385.4K + NWP \$296K in FY06)	\$796,900	\$922,000	\$681,396
COMET Classroom (based on priorities from Table 1)	\$0	\$0	\$32,000
Total for COMET AWIPS:	\$796,900	\$922,000	\$713,396
2. FDTB (OS63) AWIPS Operating Budget			
FDTB (OS63) AWIPS IFPS Team and Build Delta Training Budget	\$0	\$0	\$35,000
Total for FDTB AWIPS Operating Budget:	\$0	\$0	\$35,000
3. NWSTC (OS61) AWIPS Operating Budget			
NWSTC (OS61) AWIPS IFPS Team and Build Delta Training Budget	\$0	\$0	\$5,000
Total for NWSTC AWIPS Operating Budget:	\$0	\$0	\$5,000
Total Non-Discretionary AWIPS Budget:	\$796,900	\$922,000	\$753,396
What's Left:			
AWIPS Funds Available for All AWIPS Training Requirements in Tables 1 and 2:	\$810,820	\$391,720	\$560,324
Percent of Total AWIPS Funds Remaining:	50%	30%	43%
Table 3: Total Training Requirements:	\$3,618,900	\$3,097,000	\$2,988,000

FY06 OCWWS Training Division																	
Table 4: Funding Summary	Table 1	Table 1	Table 1	Table 2	Table 2	Table 2	Table 2a	Table 2a	Table 2a	Table 3	Table 3	Table 3	Total	Total	Total	Total	
	Requested	Funded	Difference	Requested	Funded	Difference	Requested	Funded	Difference	Requested	Funded	Reductions	Available	Requested	Funded	Unfunded	
	Training	Training	(Unfunded)	Training	Training	(Unfunded)	Training	Training	(Unfunded)	Training	Training	fm FY05	Funds	Training	Training	Training	
BASE Funds:	\$1,356,241	\$1,112,040	\$244,201	\$844,920	\$617,356	\$227,564	\$3,002,139	\$0	\$3,002,139	\$2,234,604	\$2,234,604	\$587,396	\$3,964,000	\$8,025,300	\$3,964,000	\$4,061,300	
AWIPS Funds:	\$637,254	\$438,595	\$198,659	\$121,729	\$121,729	\$0	\$11,136	\$0	\$11,136	\$753,396	\$753,396	\$43,504	\$1,313,720	\$1,567,019	\$1,313,720	\$253,299	
NEXRAD Funds:	\$466,856	\$452,304	\$14,552	\$38,000	\$38,000	\$0	\$220,000	\$0	\$220,000	\$0	\$0	\$0	\$490,304	\$724,856	\$490,304	\$234,552	
ORDA Funds:	\$199,288	\$199,288	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$199,288	\$199,288	\$199,288	\$0	
RRS Funds:	\$97,132	\$97,132	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$97,132	\$97,132	\$97,132	\$0	
ASOS Funds:	\$77,451	\$77,451	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$77,451	\$77,451	\$77,451	\$0	
Total All Funds:	\$2,834,222	\$2,376,810	\$457,412	\$1,004,649	\$777,085	\$227,564	\$3,233,275	\$0	\$3,233,275	\$2,988,000	\$2,988,000	\$630,900	\$6,141,895	\$10,691,046	\$6,141,895	\$4,549,151	
Total Training Requirements:	\$2,834,222			\$1,004,649			\$3,233,275			\$2,988,000			\$6,141,895	\$10,691,046		-\$4,549,151	Deficit